

NOTES ON *STENOPUS SCUTELLATUS* AND *S. HISPIDUS*
(DECAPODA, STENOPODIDAE) FROM MISSISSIPPI

RON LUKENS

Anadromous Fishes Section, Gulf Coast Research Laboratory,
Ocean Springs, Mississippi 39564

ABSTRACT Two species of *Stenopus* were collected in 1976 from a Liberty ship artificial reef near Horn Island, Mississippi. Six specimens of *S. scutellatus* were collected. This represents an occurrence record for Mississippi. Five specimens of *S. hispidus* were also collected; thus, extending the range in the Gulf of Mexico by about 400 km to the northwest.

Two species of *Stenopus* were collected during June through November of 1976 from an artificial reef located in the Gulf of Mexico (30°09'00"N, 88°44'50"W) approximately 10 km south of Horn Island, Mississippi. The reef consists of a scrapped World War II Liberty ship which was sunk on June 10, 1975, in approximately 14 m of water. This hull, designated the Waterhouse Reef, provides approximately 76,200 square meters of artificial substrate. Observations and collections were accomplished by employing SCUBA techniques.

Six specimens of *S. scutellatus* were collected (Table 1) from the artificial reef. In addition many other specimens were observed. They were most frequently seen in rock piles or under pieces of wood or pipe. Over half of those observed were egg-bearing females, easily distinguished by their bright green egg masses.

Previous Gulf of Mexico records for *S. scutellatus* include Rathbun (1919), Holthuis (1946, 1959), and Springer and Bullis (1956) from Florida, and Dawson (1963) from Louisiana. The present observations are the first records for Mississippi.

Five specimens of *S. hispidus* were collected during the study (Table 1). Others observed were most frequently seen on pipes or braces along the sides of the Liberty ship hull.

Again, over half were egg-bearing females, the egg mass of *S. hispidus* being bright blue.

Previous Gulf of Mexico records for *S. hispidus* include Holthuis (1946) from south Florida and Hopkins (personal communication) who found this shrimp on the Florida middleground (28°42'00"N, 84°26'30"W). The northernmost record for *S. hispidus* in American waters is from Cape Lookout, North Carolina (Kruczynski and Jenner 1969). Present observations extend the known Gulf of Mexico range about 400 km to the northwest.

Observations on the Waterhouse Reef have continued, but *Stenopus* have not been observed during the December 1976 through June 1977 period.

Limbaugh et al. (1961) reported behavioral differences between *S. scutellatus* and *S. hispidus*. According to their observations, *S. scutellatus* prefers to live in small holes or crevices and tends to be cryptic. They also stated that cleaning behavior of this species is restricted to small fish. *S. hispidus* on the other hand, prefers a more open existence living in large caves, and will clean small and large fish. These habitat preferences were noted during the Mississippi artificial reef study, but cleaning behavior was not observed.

Yaldwyn (1964, 1966) noted pair formation in *S. hispidus*. All specimens of *S. hispidus* and *S. scutellatus* on the Mississippi artificial reef were observed in pairs. It is difficult to speculate about the origin of the population of the two species of *Stenopus* found on the Waterhouse Reef. It is possible that the adult specimens developed from current-borne larvae. Little is known about reef-like habitats off Mississippi, and it is also possible that a permanent population of both species of *Stenopus* exists in deep waters. The Liberty ship artificial reef provides a substrate for many organisms previously thought to be uncommon off the Mississippi coast, and continued studies of the biota and ecological succession should be rewarding.

ACKNOWLEDGEMENTS

I thank Drs. Gordon Gunter, Thomas Hopkins, Richard Heard, and Mr. Thomas D. McIlwain for their support and careful review of this paper.

TABLE 1.

Date of capture, *in situ* hydrographic parameters, and carapace length of collected specimens of *Stenopus*.

Species	Date	Salinity* ‰	Temperature °C	Length (mm)
<i>S. scutellatus</i>	6/24/76	30	23.1	15.0
	7/7/76	38	23.0	16.5**
	10/13/76	33	25.3	16.0 16.5 17.0**
<i>S. hispidus</i>	11/3/76	30	19.8	17.5
	6/14/76	31	23.0	14.0
	7/7/76	38	22.0	15.5 16.0**
	10/13/76	33	25.3	16.0 17.0**

*By refractometer
**Ovigerous female

LITERATURE CITED

- Dawson, C. E. 1963. Notes on *Stenopus scutellatus* (Rankin) and *Neopotonides beaufortensis* (Borradaile) from the Northern Gulf of Mexico. *Crustaceana* 5(2):155-157.
- Holthuis, L. B. 1946. The Stenopodidae, Nephropsidae, Scyllaridae, and Palinuridae. The Decapoda Macrura of the Snellius Expedition. XIV. *Temminckia* 7:1-178.
- . 1959. The Crustacea Decapoda of Suriname (Dutch Guiana). *Zool. Verhand.* 44:1-296.
- Kruczynski, W. L. & C. E. Jenner. 1969. *Stenopus hispidus* (Olivier, 1811) (Decapoda, Natantia, Stenopodidae), A Northern Record on the East Coast of the U.S.A. *Crustaceana* 16(1):105-106.
- Limbaugh, C., H. Pederson, & F. A. Chace, Jr. 1961. Shrimps that clean fishes. *Bull. Mar. Sci. Gulf and Carib.* 11(2):237-257.
- Rathbun, M. J. 1919. Stalk-eyed Crustaceans of the Dutch West Indies. In: J. Boeke (ed.), *Rapport betreffende een voorloping onderzoek naar den toestand van de Visscherij en de industrie van Zeeproducten in de kolonie Curacao ingevolge het Ministerieel Besluit van 22 November 1904.* 2:317-348.
- Springer, S. & H. R. Bullis, Jr. 1956. Collections by the Oregon in the Gulf of Mexico. *U. S. Fish and Wildl. Serv. Spec. Sci. Rept. Fish.* 196:1-134.
- Yaldwyn, J. C. 1964. Pair Association in the Banded Coral Shrimps, *Stenopus hispidus* (Olivier). *Aust. Zool.* 8(4):377-389.
- . 1966. Notes on the behavior in captivity of a pair of banded coral shrimps, *Stenopus hispidus* (Olivier). *Aust. Zool.* 8(4):377-389.